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LOUIS PAUL HERZBERG 3 CLOVERDALE LANE MONSEY, NY 10952			CHEN, ALAN S	
			ART UNIT	PAPER NUMBER
			2182	

DATE MAILED: 08/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/619,988	Applicant(s) BIRAN ET AL.	
	Examiner Alan S. Chen	Art Unit 2182	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 March 2006.
 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 1-20 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
 10) ☒ The drawing(s) filed on 13 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/15/2006</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 03/10/2006 has been entered.

Response to Arguments

2. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Drawings

3. The drawings are objected to because black boxes need to be labeled as to their functions:

- Fig. 2, elements 30 and 70;
- Fig. 6-8, elements 30 and 70;
- Fig. 10, element 830;

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure

is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description:

- Fig. 2, "connector 170" (see page 6, line 22);
- Fig. 3, "user space 90" (see page 8, third paragraph)
- Fig. 5, "PLB 390" (see page 15, third paragraph)

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of

any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

5. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: Fig. 2, "270". Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

6. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The

abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 9 and 17-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 9, 17 and 18 include a limitation that recites an apparatus and is followed by further limitations referring to parts of the apparatus that are not necessarily hardware limitations, but clearly can be implemented in software. Generally, apparatus claims should include limitations relating to tangible hardware elements.

Claim 19 has a preamble that claims two computer readable program code means, however, only one appears necessary. The claim recites, "...the computer readable program code means in said article of manufacture comprising computer readable program code means...". Examiner will assume there is only one distinct computer readable program code means, not two.

Claim 20 has a preamble claiming two methods, however, only one appears necessary. The claim recites, "...said method steps comprising the steps of a method comprising...". Examiner will assume there is only one distinct method, not two.

9. Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 discloses a recites "...descriptor logic for generating in entirety a plurality of descriptors *including* a frame descriptor...a pointer descriptor...and a descriptor table for storing the descriptors...". It is unclear if the plurality of descriptors includes the frame descriptor AND the pointer descriptor AND the descriptor table, or if the plurality of descriptors includes just the frame descriptor. Examiner assumes the plurality of descriptors only include at least the frame descriptor. Note that, given the above, the descriptor logic is also unclear since it could generate in entirety the frame descriptor, pointer descriptor and the descriptor table, or simply only needs to generate the frame descriptor. The Examiner assumes the descriptor logic only needs to generate at least the frame descriptor.

Claims 9,10 and 19-20 all have the same problems related as claim 1 described above and therefore the rejection is applied accordingly.

Claims 2-8 and 11-16 are rejected as being dependent on a rejected base claim.

10. Claim 18 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear how a computer program product can comprise a host processing system and apparatus. Examiner assumes that it is the data processing system that comprises the host processing system and the apparatus.

11. Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

All the independent claims recite the limitation "descriptor logic" which very broad in scope. It is unclear if descriptor logic is a simple software constructs, large-scale software program, a handful of logically interconnected hardware gates, a large complex hardware structure or any combinations of the above hardware and software. The only reference in the specification that appears to defines descriptor logic is on page 26, lines 8-11, "...Descriptor logic in the software and in the ISOC 120 generate and modify the descriptors according to control measures to be taken...". Examiner will assume descriptor logic is form of hardware and/or software that generates the descriptor elements.

Claim Rejections - 35 USC § 101

12. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

13. Claims 1-8 are rejected under 35 U.S.C. 101 because the claims are not limited to tangible embodiments. Claim 1 purports to be an apparatus, however there are not hardware limitations describing the apparatus. A descriptor logic, pointer descriptor and descriptor table are used by the apparatus but not part of the claim apparatus. They

can purely be functional descriptive material, *per se*, and do not require associated hardware according to claim 1. Claims 2-8 are rejected based on being dependent on a rejected base claim.

14. Claims 17, 18 and 19 are rejected under 35 U.S.C. 101 because the claims are not limited to tangible embodiments. In view of Applicant's disclosure the medium is not limited to tangible embodiments, where there does not appear to be anything that prevents the medium to be on a non-statutory embodiment such as a carrier wave. As such, the claims are not limited to statutory subject matter and are therefore non-statutory. To overcome this rejection the claims need to be amended to include only the physical computer media and not a communication/transmission media or other intangible or non-functional media. Examiner recommends language such as "computer usable storage medium".

Double Patenting

15. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

16. Claims 1-20 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-20 of copending Application No. 10/619960. Although the conflicting claims are not identical, they are not patentably distinct from each other because they cover essentially identical scope. App. No. 10/619960 appears broader not requiring the Logical Communication Port architecture or generation of the plurality of descriptors in entirety. The scope of the instant application is fully encompassed by the claims in App. No. 10/619960.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

17. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

18. Claims 1,2,7-11 and 15-20 are rejected under 35 U.S.C. 102(e) as being anticipated by US Pat. No. 6,466,581 to Yee et al. (Yee).

19. Per claim 1, Yee discloses an apparatus (*Fig. 1 is a multistream data packet transfer apparatus; Column 3, lines 20-35 describe the apparatus in short*) comprising:

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descriptor logic (*Fig. 3 shows various logic elements that directly deal with creation and use; Fig. 3, element 150, for instance contains descriptors describing location of descriptor table and size of data needed; Fig. 3, element 106 contains descriptor table containing various descriptor entries*), said apparatus for controlling flow of data (*descriptors control how "data streams" are utilized in multimedia processing in the apparatus of Fig. 1; The "data streams" are by definition "flows of data" used in real-time multimedia applications. The descriptors in Yee control how the data streams are processed; Fig. 4 is an illustration how data streams are controlled via descriptors*) between first and second data processing systems (*Fig. 1, descriptor logic elements 100 and 106 control flow of data between host system CPU, element 104 and DSPs, elements 110 and 112; the host CPU is representative of the first data processing system and the DSPs are representative of the second data processing system*), via a memory (*Figs. 1 and 3, element 106 show the descriptors that control the flow of data being stored in system memory*), said descriptor logic generating, in entirety, a plurality of descriptors (*Fig. 3, elements 150 and 107; Column 7, lines 1+ disclose generating descriptors that tracks up to 32 active data streams*) including a frame descriptor defining a data packet to be communicated between a location in the memory and the second data processing system (*Fig. 3, elements 150; Column 3, lines 40-50 and Column 7, lines 33-40 disclose a descriptor that defines the size information of the data stream, the data stream being associated with a data packet, "For each stream, one register in the groups contains...the size of descriptor table"; the descriptor table is in the memory, Fig. 3, element 106 and contains detailed information about each stream*

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and how the DSPs should handle the stream, see Column 1, lines 43-51. Note, nowhere in this limitation describes in any detail whatsoever what it means to define a data packet, i.e., it could be a partial definition or a full definition of all the details of a data packet or it can be simple a pointer to another location where the data packet is defined, etc.), a pointer descriptor identifying the location in memory (Fig. 3, elements 150; Column 3, lines 40-50, "...descriptor table address location"); and a descriptor table for storing the descriptors generated by the descriptor logic for access by the first and second data processing systems (Fig. 3, element 107).

20. Per claims 9,10,17-20, claim 1 is substantially similar to claims 9,10,17-20 and therefore the rejection is applied accordingly. Yee discloses an associated method with the apparatus of claim 1 (Figs. 4 and 6), as well as associated computer program product (Fig. 1), program storage device (Fig. 3, element 122 and 106) and article of manufacture (Fig. 1). Specifically for claim 9, Fig. 1 is construed to be the data processing system of the preamble, the data communication interface is the bus between host CPU and DSP units. The PCI bus (Fig. 1, element 108) can communicate with multiple device that is attached to it, being construed here as the data communications network of the multiple devices.

21. Per claims 2, 7,11 and 15, Yee discloses claims 1 and 10, Yee further discloses using a Logical Communications Port architecture (LCP is very generally defined on page 8, lines 18-26 as "...a framework for the interface between local consumers running on the host computer and adapter". It further goes on to using open-ended language as to suggest what LCPs **could** have; Yee discloses interfacing between a

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host and secondary DSP systems, e.g., the consumers and producers, via an controller adapter, element 100, meeting this general definition of LCP), and the descriptor table is stored in the first data processing system (Fig. 3, element 106 is system memory, by definition being the host CPU memory as shown in Fig. 1). The first data processing system comprises a host computer system (Fig. 1, element 104, host CPU).

22. Per claims 8 and 16, Yee discloses claims 1 and 10, Yee further discloses the second data processing system (*Fig. 1, elements 110 and 112*) comprising a data communication interface (*Fig. 1, buses 130 and 132*) for communicating data between host computer (*Fig. 1, element 104*) and data communications network (*Fig. 1, element 108*).

Claim Rejections - 35 USC § 103

23. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

24. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

25. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

26. Claims 3 and 12 are rejected under 35 USC 103(a) as being unpatentable over Yee.

Yee discloses claims 1 and 10 of which claims 3 and 12 depend. Yee further discloses descriptor tables being accessible by the second processing system (*Fig. 4, descriptors let DSP access data streams for processing*).

Yee does not disclose expressly the descriptor table being stored in the second processing system.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to implement the descriptor tables in the second processing system, where the DSP units (*Fig. 3, elements 110 and 112*) are located.

The suggestion/motivation for doing so would have been a matter of design choice. Yee has the host processor generate the descriptor tables (*Fig. 4, element 200*), so the host system memory (*Fig. 3, element 106*) would logically be used to store the descriptor tables, which Yee does (*Fig. 3, element 107*). However, the tradeoff here

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is the increased latency subjected to the DSP units in reading from the descriptor tables, having to traverse multiple interfaces (*Fig. 3, PCI bus, at minimum, must be arbitrated for to get access to Descriptor Tables*). If the host processor stored the descriptor tables in a memory directly connected to DSP units, the latency to access the descriptor tables by the DSP units would be significantly reduced, with the tradeoff here being host write of descriptor tables being slower.

Therefore, it would have been obvious to implement the descriptor tables on the second data processing system for faster access by the DSP units.

27. Claims 4-6, 13 and 14 are rejected under 35 USC 103(a) as being unpatentable over Yee in view of US Pat. Pub. No. 2002/0083341 to Feuerstein et al. (Feuerstein).

Yee discloses claims 1 and 10 of which claims 4-6, 13 and 14 depend.

Yee does not disclose expressly generating a branch descriptor comprising a link to another descriptor in the descriptor table whereby the descriptor table has a plurality of descriptor lists sequentially linked via branch descriptors, at least one of these lists being cyclic.

Feuerstein discloses descriptors having branch descriptors that have a link to another descriptor in a descriptor table (*Paragraph 36, Fig. 2, element 208*), such that the descriptors are related in a cycle (*Fig. 3*).

Yee and Feuerstein are analogous art because they are from the same field of utilizing descriptor lists and tables to determine how to handle data transfer between two distinct systems.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to implement the branch descriptors of Feuerstein in Yee.

The suggestion/motivation for doing so would have been to enable a security function to verify the integrity of a requested resource (*Abstract of Feuerstein*).

Therefore, it would have been obvious to combine Yee with Feuerstein for the benefit of improved security in data communication between two data processing systems.

Conclusion


28. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Patents and patent related publications are cited in the Notice of References Cited (Form PTO-892) attached to this action to further show the state of the art with respect to descriptor lists and tables used in communication between two data processing systems.

29. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan S. Chen whose telephone number is 571-272-4143. The examiner can normally be reached on M-F 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim N. Huynh can be reached on 571-272-4147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ASC
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